

SEQUENCE LISTING

(1) GENERAL INFORMATION:

(i) APPLICANT: Clark, Ross G1
Lowman, Henry B.
Robinson, Iain C.A.F.

(ii) TITLE OF INVENTION: Insulin-like Growth Factor Agonist
Molecules

(iii) NUMBER OF SEQUENCES: 109

(iv) CORRESPONDENCE ADDRESS:
(A) ADDRESSEE: Genentech, Inc.
(B) STREET: 1 DNA Way
(C) CITY: South San Francisco
(D) STATE: California
(E) COUNTRY: USA
(F) ZIP: 94080

(v) COMPUTER READABLE FORM:
(A) MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
(B) COMPUTER: IBM PC compatible
(C) OPERATING SYSTEM: PC-DOS/MS-DOS
(D) SOFTWARE: WinPatin (Genentech)

(vi) CURRENT APPLICATION DATA:
(A) APPLICATION NUMBER: 09/052888
(B) FILING DATE: 31-Mar-1998
(C) CLASSIFICATION:

(viii) ATTORNEY/AGENT INFORMATION:
(A) NAME: Hasak, Janet E.
(B) REGISTRATION NUMBER: 28,616
(C) REFERENCE/DOCKET NUMBER: P1071P1

(ix) TELECOMMUNICATION INFORMATION:
(A) TELEPHONE: 650/225-1896
(B) TELEFAX: 650/952-9881

(2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 21 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

Glu Leu Asp Gly Trp Val Cys Ile Lys Val Gly Glu Gln Asn Leu
1 5 10 15

Cys Tyr Leu Ala Glu Gly
20 21

(2) INFORMATION FOR SEQ ID NO:2:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 21 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

Trp Phe Lys Thr Val Cys Tyr Glu Trp Glu Asp Glu Val Gln Cys
1 5 10 15

Tyr Thr Leu Glu Glu Gly
20 21

(2) INFORMATION FOR SEQ ID NO:3:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 21 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

Arg Val Gly Ala Tyr Ile Ser Cys Ser Glu Thr Glu Cys Trp Val
1 5 10 15

Glu Asp Leu Leu Asp Gly
20 21

(2) INFORMATION FOR SEQ ID NO:4:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

Val Ala Trp Glu Val Cys Trp Asp Arg His Asp Gln Gly Tyr Ile
1 5 10 15

Cys Thr Thr Asp Ser
20

(2) INFORMATION FOR SEQ ID NO:5:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 amino acids

(B) TYPE: Amino Acid

(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

Ala Trp Glu Val Cys Trp Asp Arg His Gln Gly Tyr Ile Cys Thr
1 5 10 15

Thr Asp Ser
18

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 15 amino acids

(B) TYPE: Amino Acid

(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

Cys Trp Asp Arg His Asp Gln Gly Tyr Ile Cys Thr Thr Asp Ser
1 5 10 15

(2) INFORMATION FOR SEQ ID NO:7:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 18 amino acids

(B) TYPE: Amino Acid

(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

Glu Glu Ser Glu Cys Phe Glu Gly Pro Gly Tyr Val Ile Cys Gly
1 5 10 15

Leu Val Gly
18

(2) INFORMATION FOR SEQ ID NO:8:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 18 amino acids

(B) TYPE: Amino Acid

(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

Asp Met Gly Val Cys Ala Asp Gly Pro Trp Met Tyr Val Cys Glu
1 5 10 15

Trp Thr Glu
18

(2) INFORMATION FOR SEQ ID NO:9:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

Ser Glu Glu Val Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys Asn
1 5 10 15

Met Trp Gly
18

(2) INFORMATION FOR SEQ ID NO:10:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

Ser Glu Glu Val Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys Asn
1 5 10 15

(2) INFORMATION FOR SEQ ID NO:11:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

Val Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys Asn Met Trp Gly
1 5 10 15

(2) INFORMATION FOR SEQ ID NO:12:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 12 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

Val Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys Asn
1 5 10 12

(2) INFORMATION FOR SEQ ID NO:13:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

Thr Gly Val Asp Cys Gln Cys Gly Pro Val His Cys Val Cys Met
1 5 10 15

Asp Trp Ala
18

(2) INFORMATION FOR SEQ ID NO:14:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

Thr Val Ala Asn Cys Asp Cys Tyr Met Pro Leu Cys Leu Cys Tyr
1 5 10 15

Asp Ser Asp
18

(2) INFORMATION FOR SEQ ID NO:15:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu Lys Tyr Phe Gly
1 5 10 15

(2) INFORMATION FOR SEQ ID NO:16:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 19 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

Ser Glu Val Gly Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu
1 5 10 15
Lys Tyr Phe Gly
19

(2) INFORMATION FOR SEQ ID NO:17:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 400 base pairs
(B) TYPE: Nucleic Acid
(C) STRANDEDNESS: Double
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

TCACGTAAAA AGGGTATCTA GAATTATGAT GATTACTCTG CGCAAACCTC 50
CTCTGGCGGT TGCCGTCGCA GCGGGCGTAA TGTCTGCTCA GGCCATGGCC 100
GGTCCCGAAA CTCTGTGCGG TGCTGAACTG GTTGACGCTC TGCAGTTCGT 150
ATGTGGTGAT CGAGGCTTCC TGTTCACAAA ACCGACTGGG GCTGGATCCT 200
CCTCTCGTCG TGCTCCCCAG ACTGGTATTG TTGACGAATG CTGCTTTCGT 250
TCTTGCGACC TCGCTCGTCT GGAAATGTAT TCGCTCCCC TGAAACCCGC 300
TAAATCTGCT TAGAAGCTCC TAACGCTCGG TTGCCGCCGG GCGTTTTTTA 350
TTGTAACTC ATGTTTGACA GCTTATCATC GATAAGCTTT AATGCGGTAG 400

(2) INFORMATION FOR SEQ ID NO:18:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 95 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

Met Met Ile Thr Leu Arg Lys Leu Pro Leu Ala Val Ala Val Ala
1 5 10 15
Ala Gly Val Met Ser Ala Gln Ala Met Ala Gly Pro Glu Thr Leu
20 25 30
Cys Gly Ala Glu Leu Val Asp Ala Leu Gln Phe Val Cys Gly Asp
35 40 45

Arg Gly Phe Leu Phe Asn Lys Pro Thr Gly Ala Gly Ser Ser Ser
50 55 60

Arg Arg Ala Pro Gln Thr Gly Ile Val Asp Glu Cys Cys Phe Arg
65 70 75

Ser Cys Asp Leu Arg Arg Leu Glu Met Tyr Cys Ala Pro Leu Lys
80 85 90

Pro Ala Lys Ser Ala
95

(2) INFORMATION FOR SEQ ID NO:19:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5115 base pairs
(B) TYPE: Nucleic Acid
(C) STRANDEDNESS: Double
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

GAATTCAACT TCTCCATACT TTGGATAAGG AAATACAGAC ATGAAAAATC 50
TCATTGCTGA GTTGTATT TTT AAGCTTGCCC AAAAAGAAGA AGAGTCGAAT 100
GAACTGTGTG CGCAGGTAGA AGCTTTGGAG ATTATCGTCA CTGCAATGCT 150
TCGCAATATG GCGCAAATG ACCAACAGCG GTTGATTGAT CAGGTAGAGG 200
GGGCGCTGTA CGAGGTAAAG CCCGATGCCA GCATTCCTGA CGACGATACG 250
GAGCTGCTGC GCGATTACGT AAAGAAGTTA TTGAAGCATC CTCGTCAGTA 300
AAAAGTTAAT CTTTTCAACA GCTGTCATAA AGTTGTCACG GCCGAGACTT 350
ATAGTCGCTT TGTTTTTATT TTTTAATGTA TTTGTA ACTA GTACGCAAGT 400
TCACGTAAAA AGGGTATCTA GAATTATGAT GATTACTCTG CGCAAACCTC 450
CTCTGGCGGT TGCCGTCGCA GCGGGCGTAA TGTCTGCTCA GGCCATGGCC 500
GGTCCCGAAA CTCTGTGCGG TGCTGAACTG GTTGACGCTC TGCAGTTCGT 550
ATGTGGTGAT CGAGGCTTCC TGTTCAACAA ACCGACTGGG GCTGGATCCT 600
CCTCTCGTCG TGCTCCCCAG ACTGGTATTG TTGACGAATG CTGCTTTCGT 650
TCTTGCGACC TGCCTCGTCT GGAAATGTAT TGCCTCCCC TGAAACCCGC 700
TAAATCTGCT TAGAAGCTCC TAACGCTCGG TTGCCGCCGG GCGTTTTTTTA 750

TTGTTAACTC ATGTTTGACA GCTTATCATC GATAAGCTTT AATGCGGTAG 800
 TTTATCACAG TTAAATTGCT AACGCAGTCA GGCACCGTGT ATGAAATCTA 850
 ACAATGCGCT CATCGTCATC CTCGGCACCG TCACCCTGGA TGCTGTAGGC 900
 ATAGGCTTGG TTATGCCGGT ACTGCCGGGC CTCTTGCGGG ATATCGTCCA 950
 TTCCGACAGC ATCGCCAGTC ACTATGGCGT GCTGCTAGCG CTATATGCGT 1000
 TGATGCAATT TCTATGCGCA CCCGTTCTCG GAGCACTGTC CGACCGCTTT 1050
 GGCCGCCGCC CAGTCCTGCT CGCTTCGCTA CTTGGAGCCA CTATCGACTA 1100
 CGCGATCATG GCGACCACAC CCGTCCTGTG GATCCTCTAC GCCGGACGCA 1150
 TCGTGGCCGG CATCACCUGC GCCACAGGTG CGGTTGCTGG CGCCTATATC 1200
 GCCGACATCA CCGATGGGGA AGATCGGGCT CGCCACTTCG GGCTCATGAG 1250
 CGCTTGTTTC GCGGTGGGTA TGGTGGCAGG CCCCGTGGCC GGGGGACTGT 1300
 TGGGCGCCAT CTCCTTGCAT GCACCATTC TCGGGCGGC GGTGCTCAAC 1350
 GGCTCAACC TACTACTGGG CTGCTTCCTA ATGCAGGAGT CGCATAAGGG 1400
 AGAGCGTCGA CCGATGCCCT TGAGAGCCTT CAACCCAGTC AGCTCCTTCC 1450
 GGTGGGCGCG GGGCATGACT ATCGTCGCCG CACTTATGAC TGTCTTCTTT 1500
 ATCATGCAAC TCGTAGGACA GGTGCCGGCA GCGCTCTGGG TCATTTTCGG 1550
 CGAGGACCGC TTTCGCTGGA GCGCGACGAT GATCGGCCTG TCGCTTGCGG 1600
 TATTCGGAAT CTTGCACGCC CTCGCTCAAG CCTTCGTCAC TGGTCCCGCC 1650
 ACCAAACGTT TCGGCGAGAA GCAGGCCATT ATCGCCGGCA TGGCGGCCGA 1700
 CGCGCTGGGC TACGTCTTGC TGGCGTTCGC GACGCGAGGC TGGATGGCCT 1750
 TCCCCATTAT GATTCTTCTC GCTTCCGGCG GCATCGGGAT GCCCGCGTTG 1800
 CAGGCCATGC TGTCCAGGCA GGTAGATGAC GACCATCAGG GACAGCTTCA 1850
 AGGATCGCTC GCGGCTCTTA CCAGCCTAAC TTCGATCACT GGACCGCTGA 1900
 TCGTCACGGC GATTTATGCC GCCTCGGCGA GCACATGGAA CGGGTTGGCA 1950
 TGGATTGTAG GCGCCGCCCT ATACCTTGTC TGCCTCCCCG CGTTGCGTCG 2000
 CGGTGCATGG AGCCGGGCCA CCTCGACCTG AATGGAAGCC GGCGGCACCT 2050

CGCTAACGGA TTCACCACTC CAAGAATTGG AGCCAATCAA TTCTTGCGGA 2100
 GAACTGTGAA TGCGCAAACC AACCCCTGGC AGAACATATC CATCGCGTCC 2150
 GCCATCTCCA GCAGCCGCAC GCGGCGCATC TCGGGCAGCG TTGGGTCTTG 2200
 GCCACGGGTG CGCATGATCG TGCTCCTGTC GTTGAGGACC CGGCTAGGCT 2250
 GCGGGGGTTG CCTTACTGGT TAGCAGAATG AATCACCGAT ACGCGAGCGA 2300
 ACGTGAAGCG ACTGCTGCTG CAAAACGTCT GCGACCTGAG CAACAACATG 2350
 AATGGTCTTC GGTTTCCGTG TTTCGTAAAG TCTGGAAACG CGGAAGTCAG 2400
 CGCCCTGCAC CATTATGTTC CGGATCTGCA TCGCAGGATG CTGCTGGCTA 2450
 CCCTGTGGAA CACCTACATC TGTATTAACG AAGCGCTGGC ATTGACCCTG 2500
 AGTGATTTTT CTCTGGTCCC GCCGCATCCA TACCGCCAGT TGTTTACCCT 2550
 CACAACGTTT CAGTAACCGG GCATGTTTAT CATCAGTAAC CCGTATCGTG 2600
 AGCATCCTCT CTCGTTTTCAT CGGTATCATT ACCCCCATGA ACAGAAATTC 2650
 CCCCTTACAC GGAGGCATCA AGTGACCAAA CAGGAAAAAA CCGCCCTTAA 2700
 CATGGCCCGC TTTATCAGAA GCCAGACATT AACGCTTCTG GAGAAACTCA 2750
 ACGAGCTGGA CGCGGATGAA CAGGCAGACA TCTGTGAATC GCTTCACGAC 2800
 CACGCTGATG AGCTTTACCG CAGCTGCCTC GCGCGTTTCG GTGATGACGG 2850
 TGAAAACCTC TGACACATGC AGTCCCGGA GACGGTCACA GCTTGTCTGT 2900
 AAGCGGATGC CGGGAGCAGA CAAGCCCGTC AGGGCGCGTC AGCGGGTGTT 2950
 GGCGGGTGTC GGGGCGCAGC CATGACCCAG TCACGTAGCG ATAGCGGAGT 3000
 GTATACTGGC TTAACATATG GGCATCAGAG CAGATTGTAC TGAGAGTGCA 3050
 CCATATGCGG TGTGAAATAC CGCACAGATG CGTAAGGAGA AAATACCGCA 3100
 TCAGGCGCTC TTCCGCTTCC TCGCTCACTG ACTCGCTGCG CTCGGTCGTT 3150
 CGGCTGCGGC GAGCGGTATC AGCTCACTCA AAGGCGGTAA TACGGTTATC 3200
 CACAGAATCA GGGGATAACG CAGGAAAGAA CATGTGAGCA AAAGGCCAGC 3250
 AAAAGGCCAG GAACCGTAAA AAGGCCGCGT TGCTGGCGTT TTTCCATAGG 3300
 CTCCGCCCCC CTGACGAGCA TCACAAAAAT CGACGCTCAA GTCAGAGGTG 3350

GCGAAACCCG ACAGGACTAT AAAGATACCA GCGGTTTCCC CCTGGAAGCT 3400
 CCTTCGTGCG CTCTCCTGTT CCGACCCTGC CGCTTACCGG ATACCTGTCC 3450
 GCCTTTCTCC CTTCGGGAAG CGTGGCGCTT TCTCATAGCT CACGCTGTAG 3500
 GTATCTCAGT TCGGTGTAGG TCGTTCGCTC CAAGCTGGGC TGTGTGCACG 3550
 AACCCCCCGT TCAGCCCGAC CGCTGCGCCT TATCCGGTAA CTATCGTCTT 3600
 GAGTCCAACC CGGTAAGACA CGACTTATCG CCACTGGCAG CAGCCACTGG 3650
 TAACAGGATT AGCAGAGCGA GGTATGTAGG CGGTGCTACA GAGTTCTTGA 3700
 AGTGGTGGCC TAACTACGGC TACACTAGAA GGACAGTATT TGGTATCTGC 3750
 GCTCTGCTGA AGCCAGTTAC CTTCGGAAAA AGAGTTGGTA GCTCTTGATC 3800
 CGGCAAACAA ACCACCGCTG GTAGCGGTGG TTTTTTTGTT TGCAAGCAGC 3850
 AGATTACGCG CAGAAAAAAA GGATCTCAAG AAGATCCTTT GATCTTTTCT 3900
 ACGGGGTCTG ACGCTCAGTG GAACGAAAAC TCACGTTAAG GGATTTTGGT 3950
 CATGAGATTA TCAAAAAGGA TCTTCACCTA GATCCTTTTA AATTAAAAAT 4000
 GAAGTTTTAA ATCAATCTAA AGTATATATG AGTAAACTTG GTCTGACAGT 4050
 TACCAATGCT TAATCAGTGA GGCACCTATC TCAGCGATCT GTCTATTTTCG 4100
 TTCATCCATA GTTGCCCTGAC TCCCCGTCGT GTAGATAACT ACGATACGGG 4150
 AGGGCTTACC ATCTGGCCCC AGTGCTGCAA TGATACCGCG AGACCCACGC 4200
 TCACCGGCTC CAGATTTATC AGCAATAAAC CAGCCAGCCG GAAGGGCCGA 4250
 GCGCAGAAGT GGTCCCTGCAA CTTTATCCGC CTCCATCCAG TCTATTAATT 4300
 GTTGCCGGGA AGCTAGAGTA AGTAGTTCGC CAGTTAATAG TTTGCGCAAC 4350
 GTTGTTGCCA TTGCTGCAGG CATCGTGGTG TCACGCTCGT CGTTTGGTAT 4400
 GGCTTCATTC AGCTCCGGTT CCCAACGATC AAGGCGAGTT ACATGATCCC 4450
 CCATGTTGTG CAAAAAAGCG GTTAGCTCCT TCGGTCCTCC GATCGTTGTC 4500
 AGAAGTAAGT TGGCCGCACT GTTATCACTC ATGGTTATGG CAGCACTGCA 4550
 TAATTCTCTT ACTGTCATGC CATCCGTAAG ATGCTTTTCT GTGACTGGTG 4600
 AGTACTCAAC CAAGTCATTC TGAGAATAGT GTATGCGGCG ACCGAGTTGC 4650

TCTTGCCCGG CGTCAACACG GGATAATACC GCGCCACATA GCAGAACTTT 4700
 AAAAGTGCTC ATCATTGGAA AACGTTCTTC GGGGCGAAAA CTCTCAAGGA 4750
 TCTTACCGCT GTTGAGATCC AGTTCGATGT AACCCACTCG TGCACCCAAC 4800
 TGATCTTCAG CATCTTTTAC TTTCACCAGC GTTCTGGGT GAGCAAAAAC 4850
 AGGAAGGCAA AATGCCGCAA AAAAGGGAAT AAGGGCGACA CGGAAATGTT 4900
 GAATACTCAT ACTCTTCCTT TTTCAATATT ATTGAAGCAT TTATCAGGGT 4950
 TATTGTCTCA TGAGCGGATA CATATTTGAA TGTATTTAGA AAAATAAACA 5000
 AATAGGGGTT CCGCGCACAT TTCCCCGAAA AGTGCCACCT GACGTCTAAG 5050
 AAACCATTAT TATCATGACA TTAACCTATA AAAATAGGCG TATCACGAGG 5100
 CCCTTTCGTC TTCAA 5115

(2) INFORMATION FOR SEQ ID NO:20:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 5140 base pairs
 (B) TYPE: Nucleic Acid
 (C) STRANDEDNESS: Single
 (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

GAATTCAACT TCTCCATACT TTGGATAAGG AAATACAGAC ATGAAAAATC 50
 TCATTGCTGA GTTGTTATTT AAGCTTGCCC AAAAAGAAGA AGAGTCGAAT 100
 GAACTGTGTG CGCAGGTAGA AGCTTTGGAG ATTATCGTCA CTGCAATGCT 150
 TCGCAATATG GCGCAAAATG ACCAACAGCG GTTGATTGAT CAGGTAGAGG 200
 GGGCGCTGTA CGAGGTAAAG CCCGATGCCA GCATTCCTGA CGACGATACG 250
 GAGCTGCTGC GCGATTACGT AAAGAAGTTA TTGAAGCATC CTCGTCAGTA 300
 AAAAGTTAAT CTTTTCAACA GCTGTCATAA AGTTGTCACG GCCGAGACTT 350
 ATAGTCGCTT TGTTTTTATT TTTTAATGTA TTTGTAATA GTACGCAAGT 400
 TCACGTAAAA AGGGTATCTA GAGGTTGAGG TGATTTTATG AAAAAGAATA 450
 TCGCATTTCT TCTTGCATCT ATGTTTCGTTT TTTCTATTGC TACAAATGCC 500
 TATGCATCTG GTACCGCCAT GGCTGATCCG AACCGTTTCC GCGGTAAAGA 550

TCTGGCAGGT TCACCAGGTG GAGGATCCGG AGGAGGCGCC GAGGGTGACG 600
ATCCCCGAAA AGCGGCCCTTT AACTCCCTGC AAGCCTCAGC GACCGAATAT 650
ATCGGTTATG CGTGGGCGAT GGTGTGTGTC ATTGTCGGCG CAACTATCGG 700
TATCAAGCTG TTTAAGAAAT TCACCTCGAA AGCAAGCTGA TAAACCGATA 750
CAATTAAAGG CTCCTTTTGG AGCCTTTTTT TTTGGAGATT TTCAACGTGA 800
AAAAATTATT ATTCGCAATT CCTTTAGTTG TTCCTTTCTA TTCTCACTCC 850
GCTGAAACTG TTGAAAGTTG TTTAGCAAAA CCCCATACAG AAAATTCATT 900
TACTAACGTC TGGAAAGACG ACAAACCTTT AGATCGTTAC GCTAACTATG 950
AGGGTTGTCT GTGGAATGCT ACAGGCGTTG TAGTTTGTAC TGGTGACGAA 1000
ACTCAGTGTC TAGCTAGAGT GCGGTTGGCT CTGGTTCCGG TGATTTTGAT 1050
TATGAAAAGA TGGCAAACGC TAATAAGGGG GCTATGACCG AAAATGCCGA 1100
TGAAAACGCG CTACAGTCTG ACGCTAAAGG CAAACTTGAT TCTGTCGCTA 1150
CTGATTACGG TGCTGCTATC GATGGTTTCA TTGGTGACGT TTCCGGCCTT 1200
GCTAATGGTA ATGGTGCTAC TGGTGATTTT GCTGGCTCTA ATTCCCAAAT 1250
GGCTCAAGTC GGTGACGGTG ATAATTCACC TTTAATGAAT AATTTCCGTC 1300
AATATTTACC TTCCCTCCCT CAATCGGTTG AATGTCGCCC TTTTGTCTTT 1350
AGCGCTGGTA AACCATATGA ATTTTCTATT GATTGTGACA AAATAAACTT 1400
ATTCCGTGGT GTCTTTGCGT TTCTTTTATA TGTTGCCACC TTTATGTATG 1450
TATTTTCTAC GTTTGCTAAC AACTGCGTA ATAAGGAGTC TTAATCATGC 1500
CAGTTCTTTT GGCTAGCGCC GCCCTATACC TTGTCTGCCT CCCCgcGTTG 1550
CGTCGCGGTG CATGGAGCCG GGCCACCTCG ACCTGAATGG AAGCCGGCGG 1600
CACCTCGCTA ACGGATTCAC CACTCCAAGA ATTGGAGCCA ATCAATTCTT 1650
GCGGAGAACT GTGAATGCGC AAACCAACCC TTGGCAGAAC ATATCCATCG 1700
CGTCCGCCAT CTCCAGCAGC CGCACGCGGC GCATCTCGGG CAGCGTTGGG 1750
TCCTGGCCAC GGGTGCGCAT GATCGTGCTC CTGTCGTTGA GGACCCGGCT 1800
AGGCTGGCGG GGTGCTTCTA CTGGTTAGCA GAATGAATCA CCGATACGCG 1850

AGCGAACGTG AAGCGACTGC TGCTGCAAAA CGTCTGCGAC CTGAGCAACA 1900
 ACATGAATGG TCTTCGGTTT CCGTGTTTCG TAAAGTCTGG AAACGCGGAA 1950
 GTCAGCGCCC TGCACCATTA TGTTCGGGAT CTGCATCGCA GGATGCTGCT 2000
 GGCTACCCTG TGGAACACCT ACATCTGTAT TAACGAAGCG CTGGCATTGA 2050
 CCCTGAGTGA TTTTCTCTG GTCCCGCCGC ATCCATACCG CCAGTTGTTT 2100
 ACCCTCACAA CGTTCCAGTA ACCGGGCATG TTCATCATCA GTAACCCGTA 2150
 TCGTGAGCAT CCTCTCTCGT TTCATCGGTA TCATTACCCC CATGAACAGA 2200
 AATTCCCCCT TACACGGAGG CATCAAGTGA CCAAACAGGA AAAAACCGCC 2250
 CTTAACATGG CCCGCTTTAT CAGAAGCCAG ACATTAACGC TTCTGGAGAA 2300
 ACTCAACGAG CTGGACGCGG ATGAACAGGC AGACATCTGT GAATCGCTTC 2350
 ACGACCACGC TGATGAGCTT TACCGCAGGA TCCGGAATT GTAAACGTTA 2400
 ATATTTTGTT AAAATTCGCG TTAAATTTTT GTTAAATCAG CTCATTTTTT 2450
 AACCAATAGG CCGAAATCGG CAAAATCCCT TATAAATCAA AAGAATAGAC 2500
 CGAGATAGGG TTGAGTGTTG TTCCAGTTTG GAACAAGAGT CCACTATTAA 2550
 AGAACGTGGA CTCCAACGTC AAAGGGCGAA AAACCGTCTA TCAGGGCTAT 2600
 GGCCCCACTAC GTGAACCATC ACCCTAATCA AGTTTTTTGG GGTCGAGGTG 2650
 CCGTAAAGCA CTAAATCGGA ACCCTAAAGG GAGCCCCCGA TTTAGAGCTT 2700
 GACGGGGAAA GCCGGCGAAC GTGGCGAGAA AGGAAGGGAA GAAAGCGAAA 2750
 GGAGCGGGCG CTAGGGCGCT GGCAAGTGTA GCGGTCACGC TGCGCGTAAC 2800
 CACCACACCC GCCGCGCTTA ATGCGCCGCT ACAGGGCGCG TCCGGATCCT 2850
 GCCTCGCGCG TTTCGGTGAT GACGGTGAAA ACCTCTGACA CATGCAGCTC 2900
 CCGGAGACGG TCACAGCTTG TCTGTAAGCG GATGCCGGGA GCAGACAAGC 2950
 CCGTCAGGGC GCGTCAGCGG GTGTTGGCGG GTGTCGGGGC GCAGCCATGA 3000
 CCCAGTCACG TAGCGATAGC GGAGTGTATA CTGGCTTAAC TATGCGGCAT 3050
 CAGAGCAGAT TGTACTGAGA GTGCACCATA TGCGGTGTGA AATACCGCAC 3100
 AGATGCGTAA GGAGAAAATA CCGCATCAGG CGCTCTTCCG CTTCTCGCT 3150

CACTGACTCG CTGCGCTCGG TCGTTCGGCT GCGGCGAGCG GTATCAGCTC 3200
 ACTCAAAGGC GGTAATACGG TTATCCACAG AATCAGGGGA TAACGCAGGA 3250
 AAGAACATGT GAGCAAAAGG CCAGCAAAAG GCCAGGAACC GTAAAAAGGC 3300
 CGCGTTGCTG GCGTTTTTCC ATAGGCTCCG CCCCCTGAC GAGCATCACA 3350
 AAAATCGACG CTCAAGTCAG AGGTGGCGAA ACCCGACAGG ACTATAAAGA 3400
 TACCAGGCGT TTCCCCCTGG AAGCTCCCTC GTGCGCTCTC CTGTTCCGAC 3450
 CCTGCCGCTT ACCGGATACC TGTCCGCCTT TCTCCCTTCG GGAAGCGTGG 3500
 CGCTTTCTCA TAGCTCACGC TGTAGGTATC TCAGTTCGGT GTAGGTCGTT 3550
 CGCTCCAAGC TGGGCTGTGT GCACGAACCC CCCGTTACG CCGACCGCTG 3600
 CGCCTTATCC GGTAACTATC GTCTTGAGTC CAACCCGGTA AGACACGACT 3650
 TATCGCCACT GGCAGCAGCC ACTGGTAACA GGATTAGCAG AGCGAGGTAT 3700
 GTAGGCGGTG CTACAGAGTT CTTGAAGTGG TGGCCTAACT ACGGCTACAC 3750
 TAGAAGGACA GTATTTGGTA TCTGCGCTCT GCTGAAGCCA GTTACCTTCG 3800
 GAAAAAGAGT TGGTAGCTCT TGATCCGGCA AACAAACCAC CGCTGGTAGC 3850
 GGTGGTTTTT TTGTTTGCAA GCAGCAGATT ACGCGCAGAA AAAAAGGATC 3900
 TCAAGAAGAT CCTTTGATCT TTTCTACGGG GTCTGACGCT CAGTGGAACG 3950
 AAAACTCACG TTAAGGGATT TTGGTCATGA GATTATCAAA AAGGATCTTC 4000
 ACCTAGATCC TTTTAAATTA AAAATGAAGT TTAAATCAA TCTAAAGTAT 4050
 ATATGAGTAA ACTTGGTCTG ACAGTTACCA ATGCTTAATC AGTGAGGCAC 4100
 CTATCTCAGC GATCTGTCTA TTTCGTTTAT CCATAGTTGC CTGACTCCCC 4150
 GTCGTGTAGA TAACTACGAT ACGGGAGGGC TTACCATCTG GCCCCAGTGC 4200
 TGCAATGATA CCGCGAGACC CACGCTCACC GGCTCCAGAT TTATCAGCAA 4250
 TAAACCAGCC AGCCGGAAGG GCCGAGCGCA GAAGTGGTCC TGCAACTTTA 4300
 TCCGCCTCCA TCCAGTCTAT TAATTGTTGC CGGGAAGCTA GAGTAAGTAG 4350
 TTCGCCAGTT AATAGTTTGC GCAACGTTGT TGCCATTGCT GCAGGCATCG 4400
 TGGTGTCACG CTCGTCGTTT GGTATGGCTT CATTCAGCTC CGGTTCCCAA 4450

CGATCAAGGC GAGTTACATG ATCCCCCATG TTGTGCAAAA AAGCGGTTAG 4500
 CTCCTTCGGT CCTCCGATCG TTGTCAGAAG TAAGTTGGCC GCAGTGTTAT 4550
 CACTCATGGT TATGGCAGCA CTGCATAATT CTCTTACTGT CATGCCATCC 4600
 GTAAGATGCT TTTCTGTGAC TGGTGAGTAC TCAACCAAGT CATTCTGAGA 4650
 ATAGTGTATG CGGCGACCGA GTTGCTCTTG CCCGGCGTCA ACACGGGATA 4700
 ATACCGCGCC ACATAGCAGA ACTTTAAAAG TGCTCATCAT TGGAAAACGT 4750
 TCTTCGGGGC GAAAACTCTC AAGGATCTTA CCGCTGTTGA GATCCAGTTC 4800
 GATGTAACCC ACTCGTGCAC CCAACTGATC TTCAGCATCT TTTACTTTCA 4850
 CCAGCGTTTC TGGGTGAGCA AAAACAGGAA GGCAAAATGC CGCAAAAAAG 4900
 GGAATAAGGG CGACACGGAA ATGTTGAATA CTCATACTCT TCCTTTTTCA 4950
 ATATTATTGA AGCATTTATC AGGGTTATTG TCTCATGAGC GGATACATAT 5000
 TTGAATGTAT TTAGAAAAAT AAACAAATAG GGGTTCCGCG CACATTTCCT 5050
 CGAAAAGTGC CACCTGACGT CTAAGAAACC ATTATTATCA TGACATTAAC 5100
 CTATAAAAAT AGGCGTATCA CGAGGCCCTT TCGTCTTCAA 5140

(2) INFORMATION FOR SEQ ID NO:21:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 77 amino acids
 (B) TYPE: Amino Acid
 (D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

Ser	Gly	Thr	Ala	Met	Ala	Asp	Pro	Asn	Arg	Phe	Arg	Gly	Lys	Asp
1				5					10					15
Leu	Ala	Gly	Ser	Pro	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Ala	Glu	Gly
				20					25					30
Asp	Asp	Pro	Ala	Lys	Ala	Ala	Phe	Asn	Ser	Leu	Gln	Ala	Ser	Ala
				35					40					45
Thr	Glu	Tyr	Ile	Gly	Tyr	Ala	Trp	Ala	Met	Val	Val	Val	Ile	Val
				50					55					60
Gly	Ala	Thr	Ile	Gly	Ile	Lys	Leu	Phe	Lys	Lys	Phe	Thr	Ser	Lys
				65					70					75

1166

Ala Ser
77

(2) INFORMATION FOR SEQ ID NO:22:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 50 base pairs
(B) TYPE: Nucleic Acid
(C) STRANDEDNESS: Single
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

GTTCGTATGT GGTGATCGAG GCTTCCTGTT CAACAAACCG ACTGGGGCTG 50

(2) INFORMATION FOR SEQ ID NO:23:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 58 base pairs
(B) TYPE: Nucleic Acid
(C) STRANDEDNESS: Single
(D) TOPOLOGY: Linear
(ii) MOLECULE TYPE: Nucleic Acid

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

GATCCAGCCC CAGTCGTTT GTTGAACAGG AAGCCTCGAT CACCACATAC 50
GAACTGCA 58

(2) INFORMATION FOR SEQ ID NO:24:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

Ser	Gly	Thr	Ala	Cys	Xaa	Xaa	Gly	Pro	Xaa	Xaa	Xaa	Xaa	Cys	Ser
1				5				10					15	
Leu	Ala	Gly	Ser	Pro										
				20										

(2) INFORMATION FOR SEQ ID NO:25:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 amino acids
(B) TYPE: Amino Acid

(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

Xaa Xaa Xaa Xaa Cys Xaa Xaa Gly Pro Xaa Xaa Xaa Xaa Cys Xaa
1 5 10 15

Xaa Xaa Xaa
18

(2) INFORMATION FOR SEQ ID NO:26:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa
20

(2) INFORMATION FOR SEQ ID NO:27:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Cys Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa
20

(2) INFORMATION FOR SEQ ID NO:28:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Cys Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa
20

(2) INFORMATION FOR SEQ ID NO:29:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa
20

(2) INFORMATION FOR SEQ ID NO:30:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Cys
1 5 10 15

Xaa Xaa Xaa Xaa Xaa
20

(2) INFORMATION FOR SEQ ID NO:31:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:

Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys
1 5 10 15

Xaa Xaa Xaa Xaa Xaa
20

(2) INFORMATION FOR SEQ ID NO:32:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids

(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15
Cys Xaa Xaa Xaa Xaa
20

(2) INFORMATION FOR SEQ ID NO:33:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:

Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15
Cys Xaa Xaa Xaa Xaa
20

(2) INFORMATION FOR SEQ ID NO:34:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:

Gly Gly Thr Tyr Ser Cys His Phe Gly Pro Leu Thr Trp Val Cys
1 5 10 15
Lys Pro Gln Gly Gly
20

(2) INFORMATION FOR SEQ ID NO:35:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 10 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:

Cys Xaa Xaa Gly Pro Xaa Xaa Xaa Xaa Cys
1 5 10

(2) INFORMATION FOR SEQ ID NO:36:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 70 base pairs
(B) TYPE: Nucleic Acid
(C) STRANDEDNESS: Single
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:

GCCTATGCAT CTGGTACCGC CTGCNNSNNS GGTCTNNSN NSNNSNSTG 50
TTCTCTGGCA GGTTCACCAG 70

(2) INFORMATION FOR SEQ ID NO:37:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 91 base pairs
(B) TYPE: Nucleic Acid
(C) STRANDEDNESS: Single
(D) TOPOLOGY: Linear
(ii) MOLECULE TYPE: Nucleic Acid

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

GCTACAAATG CCTATGCANN SNNSNNSNNS TGCNNSNNSG GTCCTNNSN 50
SNNSNNSNSTGT NNSNNSNNSN NSGGTGGAGG ATCCGGAGGA G 91

(2) INFORMATION FOR SEQ ID NO:38:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 97 base pairs
(B) TYPE: Nucleic Acid
(C) STRANDEDNESS: Single
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

GCTACAAATG CCTATGCANN SNNSNNSNNS NNSNNSNST GCNNSNNSN 50
SNNSTGCNNS NNSNNSNNSN NSNNSNNSGG TGGAGGATCC GGAGGAG 97

(2) INFORMATION FOR SEQ ID NO:39:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 97 base pairs
(B) TYPE: Nucleic Acid
(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:

GCTACAAATG CCTATGCANN SNNSNNSNNS NNSNNSNNST GCNNSNNSNN 50
SNNSNNSTGC NNSNNSNNSN NSNNSNNSGG TGGAGGATCC GGAGGAG 97

(2) INFORMATION FOR SEQ ID NO:40:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 97 base pairs
(B) TYPE: Nucleic Acid
(C) STRANDEDNESS: Single
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:

GCTACAAATG CCTATGCANN SNNSNNSNNS NNSNNSTGCN NSNNSNNSNN 50
SNNSNNSTGC NNSNNSNNSN NSNNSNNSGG TGGAGGATCC GGAGGAG 97

(2) INFORMATION FOR SEQ ID NO:41:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 97 base pairs
(B) TYPE: Nucleic Acid
(C) STRANDEDNESS: Single
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:

GCTACAAATG CCTATGCANN SNNSNNSNNS NNSNNSTGCN NSNNSNNSNN 50
SNNSNNSNNS TGCNNSNNSN NSNNSNNSGG TGGAGGATCC GGAGGAG 97

(2) INFORMATION FOR SEQ ID NO:42:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 97 base pairs
(B) TYPE: Nucleic Acid
(C) STRANDEDNESS: Single
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:

GCTACAAATG CCTATGCANN SNNSNNSNNS NNSTGCNNSN NSNNSNNSNN 50

SNNSNNSNNS TGCNNSNNSN NSNNSNNSGG TGGAGGATCC GGAGGAG 97

(2) INFORMATION FOR SEQ ID NO:43:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 97 base pairs
(B) TYPE: Nucleic Acid
(C) STRANDEDNESS: Single
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:43:

GCTACAAATG CCTATGCANN SNNSNNSNNS NNSTGCNNSN NSNNSNNSNN 50

SNNSNNSNNS NNSTGCNNSN NSNNSNNSGG TGGAGGATCC GGAGGAG 97

(2) INFORMATION FOR SEQ ID NO:44:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 97 base pairs
(B) TYPE: Nucleic Acid
(C) STRANDEDNESS: Single
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:

GCTACAAATG CCTATGCANN SNNSNNSNNS TGCNNSNNSN NSNNSNNSNN 50

SNNSNNSNNS NNSTGCNNSN NSNNSNNSGG TGGAGGATCC GGAGGAG 97

(2) INFORMATION FOR SEQ ID NO:45:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:45:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa
20

(2) INFORMATION FOR SEQ ID NO:46:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 97 base pairs
(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:

GCTACAAATG CCTATGCANN SNNSNNSNNS NNSNNSNNSN NSNNSNNSNN 50
SNNSNNSNNS NNSNNSNNSN NSNNSNNSGG TGGAGGATCC GGAGGAG 97

(2) INFORMATION FOR SEQ ID NO:47:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:

Ser Gly Thr Ala Cys Tyr Gly Gly Pro Glu Trp Trp Cys Cys Ser
1 5 10 15
Leu Ala Gly Ser Pro
20

(2) INFORMATION FOR SEQ ID NO:48:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:

Asp Leu Ala Ile Cys Ala Glu Gly Pro Glu Ile Trp Val Cys Glu
1 5 10 15
Glu Thr Ser
18

(2) INFORMATION FOR SEQ ID NO:49:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:49:

Asp Phe Trp Ile Cys Leu Ser Gly Pro Gly Trp Glu Glu Cys Leu
1 5 10 15

Glu Trp Trp
18

(2) INFORMATION FOR SEQ ID NO:50:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:

Gly Ser Ala Gly Gln Gly Met Thr Glu Glu Trp Ala Trp Ile Trp
1 5 10 15

Glu Trp Trp Lys Glu
20

(2) INFORMATION FOR SEQ ID NO:51:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:

Glu Leu Asp Gly Trp Val Cys Ile Lys Val Gly Glu Gln Asn Leu
1 5 10 15

Cys Tyr Leu Ala Glu
20

(2) INFORMATION FOR SEQ ID NO:52:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:

Ala Ile Gly Gly Trp Cys Phe Ile Glu Leu Asp Ser Leu Trp Cys
1 5 10 15

Glu Glu Gln Ile Gly
20

(2) INFORMATION FOR SEQ ID NO:53:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids

(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:

Ser Glu Asp Val Glu Cys Trp Gln Val Trp Glu Asn Leu Val Cys
1 5 10 15
Ser Val Glu His Arg
20

(2) INFORMATION FOR SEQ ID NO:54:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 19 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:

Ser Glu Glu Val Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys Asn
1 5 10 15
Met Trp Gly Arg
19

(2) INFORMATION FOR SEQ ID NO:55:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:

Arg Val Gly Ala Tyr Ile Ser Cys Ser Glu Thr Glu Cys Trp Val
1 5 10 15
Glu Asp Leu Leu Asp
20

(2) INFORMATION FOR SEQ ID NO:56:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:56:

Trp Phe Lys Thr Val Cys Tyr Glu Trp Glu Asp Glu Val Gln Cys
1 5 10 15

Tyr Thr Leu Glu Glu
20

(2) INFORMATION FOR SEQ ID NO:57:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:57:

Arg Leu Glu Glu Gln Cys Val Glu Val Asn Tyr Glu Pro Ser Cys
1 5 10 15

Ser Phe Thr Ala Asn
20

(2) INFORMATION FOR SEQ ID NO:58:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 19 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:58:

Ser Glu Glu Val Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys Asn
1 5 10 15

Ile Leu Gly Pro
19

(2) INFORMATION FOR SEQ ID NO:59:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:59:

Glu Thr Val Ala Asn Cys Asp Cys Tyr Met Asp Leu Cys Leu Cys
1 5 10 15

Tyr Gly Ser Asp Arg
20

(2) INFORMATION FOR SEQ ID NO:60:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids

(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:60:

Tyr His Pro Ile Ser Cys Met Asp His Tyr Tyr Leu Ile Ile Cys
1 5 10 15
Asp Glu Thr Val Asn
20

(2) INFORMATION FOR SEQ ID NO:61:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:61:

Ala Glu Trp Ala Glu Cys Trp Ile Ala Gly Asp Gln Leu Leu Cys
1 5 10 15
Val Gly Lys Asp Asn
20

(2) INFORMATION FOR SEQ ID NO:62:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:62:

Glu Pro Trp Leu Cys Gln Tyr Tyr Glu Ala Ala Met Leu Tyr Leu
1 5 10 15
Cys Trp Glu Glu Gly
20

(2) INFORMATION FOR SEQ ID NO:63:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:63:

Ala Glu Glu Gly Met Val Trp Gly Trp Thr Gly Gly Trp Tyr Asn
1 5 10 15

Leu Asp Glu Leu Cys
20

(2) INFORMATION FOR SEQ ID NO:64:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:64:

Ser Gly Gly Ala Ile Tyr Trp Pro Val Glu Gln Phe Ile Ala Phe
1 5 10 15

Met Ala Val Gly Lys
20

(2) INFORMATION FOR SEQ ID NO:65:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:65:

Ser Gly Gly Ala Ile Tyr Met Pro Val Glu Gln Phe Ile Ala Phe
1 5 10 15

Met Ala Val Gly Lys
20

(2) INFORMATION FOR SEQ ID NO:66:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:66:

Glu Val Leu Leu Cys Ser Asp Gly Pro Gln Leu Tyr Leu Cys Glu
1 5 10 15

Leu Tyr Ala
18

(2) INFORMATION FOR SEQ ID NO:67:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 amino acids

(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:67:

Ser Gly Val Glu Cys Val Trp Gly Pro Gln Trp Gly Phe Cys Val
1 5 10 15
Glu Glu Tyr
18

(2) INFORMATION FOR SEQ ID NO:68:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:68:

Asp Lys Glu Val Cys Tyr Leu Gly Pro Glu Thr Trp Leu Cys Phe
1 5 10 15
Trp Trp Pro
18

(2) INFORMATION FOR SEQ ID NO:69:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:69:

Gly Asp Val Glu Cys Ile Glu Gly Pro Trp Gly Glu Leu Cys Val
1 5 10 15
Trp Ala Asp
18

(2) INFORMATION FOR SEQ ID NO:70:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:70:

Phe Gly Gly Trp Ser Cys Gln Pro Thr Trp Val Asp Val Tyr Val
1 5 10 15

Cys Asn Phe Glu Glu
20

(2) INFORMATION FOR SEQ ID NO:71:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:71:

Ala Met Trp Val Cys Val Ser Asp Trp Glu Thr Val Glu Glu Cys
1 5 10 15

Ile Gln Tyr Met Tyr
20

(2) INFORMATION FOR SEQ ID NO:72:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:72:

Thr Asn Trp Phe Phe Val Cys Glu Ser Gly His Gln Asp Ile Cys
1 5 10 15

Trp Leu Ala Glu Glu
20

(2) INFORMATION FOR SEQ ID NO:73:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:73:

Ser Glu Val Gly Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu
1 5 10 15

Lys Tyr Phe
18

(2) INFORMATION FOR SEQ ID NO:74:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 19 amino acids

(B) TYPE: Amino Acid

(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:

Lys Asp Pro Val Cys Gly Glu Gly Pro Leu Met Arg Ile Cys Glu
1 5 10 15
Arg Leu Phe Gly
19

(2) INFORMATION FOR SEQ ID NO:75:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 amino acids

(B) TYPE: Amino Acid

(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:75:

Glu Val Asp Gly Arg Trp Trp Ile Val Glu Thr Phe Leu Ala Lys
1 5 10 15
Trp Asp His Met Ala Gly
20 21

(2) INFORMATION FOR SEQ ID NO:76:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 18 amino acids

(B) TYPE: Amino Acid

(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:76:

Trp Val Met Glu Cys Gly Ala Gly Pro Trp Pro Glu Gly Cys Thr
1 5 10 15
Phe Met Leu
18

(2) INFORMATION FOR SEQ ID NO:77:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 19 amino acids

(B) TYPE: Amino Acid

(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:77:

Arg Lys Thr Ser Gln Gly Arg Gly Gln Glu Met Cys Trp Glu Thr
1 5 10 15

Gly Gly Cys Ser
19

(2) INFORMATION FOR SEQ ID NO:78:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:78:

Ser Trp Glu Arg Gly Glu Leu Thr Tyr Met Lys Leu Cys Glu Tyr
1 5 10 15
Met Arg Leu Gln Gln
20

(2) INFORMATION FOR SEQ ID NO:79:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:79:

Glu His Gly Arg Ala Asn Cys Leu Ile Thr Pro Glu Ala Gly Lys
1 5 10 15
Leu Ala Arg Val Thr
20

(2) INFORMATION FOR SEQ ID NO:80:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:80:

Val Glu Asp Glu Cys Trp Met Gly Pro Asp Trp Ala Val Cys Trp
1 5 10 15
Thr Trp Gly
18

(2) INFORMATION FOR SEQ ID NO:81:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 11 amino acids

(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:81:

Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu
1 5 10 11

(2) INFORMATION FOR SEQ ID NO:82:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 12 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:82:

Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu Lys
1 5 10 12

(2) INFORMATION FOR SEQ ID NO:83:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 14 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:83:

Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu Lys Ala Ala
1 5 10 14

(2) INFORMATION FOR SEQ ID NO:84:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 14 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:84:

Cys Arg Lys Gly Pro Leu Gln Trp Leu Cys Glu Leu Tyr Phe
1 5 10 14

(2) INFORMATION FOR SEQ ID NO:85:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 14 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:85:

Cys Arg Lys Gly Pro Leu Gln Trp Leu Cys Glu Lys Tyr Phe
1 5 10 14

(2) INFORMATION FOR SEQ ID NO:86:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 14 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:86:

Cys Lys Glu Gly Pro Leu Gln Trp Leu Cys Glu Lys Tyr Phe
1 5 10 14

(2) INFORMATION FOR SEQ ID NO:87:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 14 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:87:

Cys Lys Glu Gly Pro Leu Leu Trp Leu Cys Glu Lys Tyr Phe
1 5 10 14

(2) INFORMATION FOR SEQ ID NO:88:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:88:

Ser Glu Val Gly Cys Arg Glu Gly Pro Leu Gln Trp Leu Cys Glu
1 5 10 15

Lys Tyr Phe
18

(2) INFORMATION FOR SEQ ID NO:89:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 14 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:89:

Cys Ala Ala Gly Pro Leu Gln Trp Leu Cys Glu Lys Tyr Phe
1 5 10 14

(2) INFORMATION FOR SEQ ID NO:90:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 14 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:90:

Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu Arg Tyr Phe
1 5 10 14

(2) INFORMATION FOR SEQ ID NO:91:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 14 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:91:

Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu Lys Phe Phe
1 5 10 14

(2) INFORMATION FOR SEQ ID NO:92:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 14 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:92:

Cys Lys Ala Gly Pro Leu Leu Trp Leu Cys Glu Arg Phe Phe
1 5 10 14

(2) INFORMATION FOR SEQ ID NO:93:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 14 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:93:

Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu Arg Phe Phe
1 5 10 14

(2) INFORMATION FOR SEQ ID NO:94:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 14 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:94:

Cys Arg Glu Gly Pro Leu Gln Trp Leu Cys Glu Arg Phe Phe
1 5 10 14

(2) INFORMATION FOR SEQ ID NO:95:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 14 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:95:

Cys Lys Glu Gly Pro Leu Leu Trp Leu Cys Glu Arg Phe Phe
1 5 10 14

(2) INFORMATION FOR SEQ ID NO:96:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 14 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:96:

Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu Lys Tyr Phe
1 5 10 14

(2) INFORMATION FOR SEQ ID NO:97:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:97:

Ser Glu Met Val Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu
1 5 10 15

Ile Tyr Phe
18

(2) INFORMATION FOR SEQ ID NO:98:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:98:

Glu Ala Arg Val Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu
1 5 10 15

Lys Tyr Phe
18

(2) INFORMATION FOR SEQ ID NO:99:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 21 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:99:

Ser Glu Val Gly Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu
1 5 10 15

Lys Tyr Phe Ser Thr Tyr
20 21

(2) INFORMATION FOR SEQ ID NO:100:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 17 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:100:

Cys Arg Ala Gly Pro Leu Gln Trp Leu Cys Glu Lys Tyr Phe Ser
1 5 10 15

Thr Tyr
17

(2) INFORMATION FOR SEQ ID NO:101:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: Amino Acid
(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:101:

Ala Ser Glu Glu Val Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys
1 5 10 15

Asn Met Trp Gly Arg
20

(2) INFORMATION FOR SEQ ID NO:102:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 16 amino acids

(B) TYPE: Amino Acid

(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:102:

Ala Ser Glu Glu Val Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys
1 5 10 15

Asn
16

(2) INFORMATION FOR SEQ ID NO:103:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 15 amino acids

(B) TYPE: Amino Acid

(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:103:

Gly Pro Glu Thr Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys Asn
1 5 10 15

(2) INFORMATION FOR SEQ ID NO:104:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 14 amino acids

(B) TYPE: Amino Acid

(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:104:

Glu Glu Val Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys Asn
1 5 10 14

(2) INFORMATION FOR SEQ ID NO:105:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 13 amino acids

(B) TYPE: Amino Acid

(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:105:

Glu Val Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys Asn
1 5 10 13

(2) INFORMATION FOR SEQ ID NO:106:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 11 amino acids

(B) TYPE: Amino Acid

(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:106:

Cys Trp Pro Val Ala Glu Trp Tyr Leu Cys Asn
1 5 10 11

(2) INFORMATION FOR SEQ ID NO:107:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 10 amino acids

(B) TYPE: Amino Acid

(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:107:

Trp Pro Val Ala Glu Trp Tyr Leu Cys Asn
1 5 10

(2) INFORMATION FOR SEQ ID NO:108:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 12 amino acids

(B) TYPE: Amino Acid

(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:108:

Cys Gln Leu Val Arg Pro Asp Leu Leu Leu Cys Gln
1 5 10 12

(2) INFORMATION FOR SEQ ID NO:109:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 11 amino acids

(B) TYPE: Amino Acid

(D) TOPOLOGY: Linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:109:

Ile Pro Val Ser Pro Asp Trp Phe Val Cys Gln
1 5 10 11

1. The first step is to identify the problem. This involves understanding the current situation and what needs to be changed.